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D'ARREST'S NEW COMET.

Dr. d'Arrest, of the Leipsic Observatory, discovered a faint comet in the constellation *Pisces* on the night of June 27. The place could only be estimated roughly on account of twilight.

	Leipsic M.T.	R.A.	Decl.
	h m	° ′	° ′
1851, June 27	13 10	7 49	+10 32

The next night was cloudy; but on the night following Dr. d'Arrest obtained two comparisons of the comet with *Weisse* 0ʰ, 690, which were as satisfactory as the extreme faintness of the comet would allow.

	Leipsic M.T.	R.A.	Decl.
	h m s	° ′ ″	° ′ ″
1851, June 29	13 14 5	10 4 47	+10 37 35

CAMBRIDGE. Northumberland Equatoreal. (Prof. Challis.)

	Greenwich M.T.	R.A.	Log $\frac{p}{P}$	N.P.D.	Log $\frac{q}{P}$	No. of Comps.	Star.
1851.	h m s	h m s		° ′ ″			
Aug. 7	13 56 3·7	3 7 34·79	−8·561	81 59 5·7	−9·8684	7	*a*
21	12 46 58·7	3 42 34·22	8·597	84 31 7·5	9·8849	6	*b*
Sept. 22	13 6 57·9	4 22 42·55	−8·480	91 41 31·5	−9·9024	8	*c*

The comet on Sept. 22 was faint, and so much diffused that it was difficult to fix upon the brightest point. The following are the assumed *mean* places, 1851·0, of the stars as derived from the Catalogues.

	Mean R.A.	Mean N.P.D.	Name of Star.
	h m s	° ′ ″	
a	3 4 36·17	81 58 13·6	Bessel (Weisse), iiiʰ, 62
b	3 37 45·77	84 25 14·3	*u′* Tauri = B.A.C. 1162
c	4 18 6·55	91 45 16·2	Bessel (Weisse), ivʰ, 376

DURHAM. Fraunhofer Equatoreal. (Mr. R. C. Carrington.)

	Green. M.T.	R.A.	Log $\frac{p}{P}$	N.P.D.	Log $\frac{q}{P}$	No. of Comps. in R.A.	No. of Comps. in N.P.D.	Set.
1851.	h m s	h m s		° ′ ″				
Aug. 24	14 49 36·5	3 48 54·85	−8·426	85 8 54·7	−9·8892	4	4	1
30	13 52 42·2	4 0 21·30	8·499	86 24 44·9	9·8982	4	4	2
Sept. 1	14 30 19·1	2 53·83	8·428	86 51 11·7	9·8972	5	5	3
6	14 33 29·2	4 9 51·97	−8·395	87 59 55·0	−9·9016	8	8	4

P is the equatoreal horizontal parallax in seconds of arc; *p* and *q* are the required corrections in time and arc respectively.

Mean places of Stars of Comparison, 1851·0.

Name.	R.A.	N.P.D.	Set.
	h m s	° ′ ″	
Weisse, iiiʰ, 972	3 49 54·30	84 57 0·9	1
— — 1103	3 56 53·49	86 34 24·8	2
— ivʰ, 124	4 7 0·25	87 0 42·4	3
— — 180	4 9 32·04	87 50 32·7	4

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D'Arrest's comet, as seen here, exhibited no nucleus; the errors of observation will consequently be large. The first observation was taken with a wire-micrometer, the three last with a ring-micrometer, radius 444″. The correction for refraction has been applied. Cloudy weather prevented observation previous to July 18; I was then absent from Durham till August 18. Attempts since Sept. 6 have been unsuccessful.

Elliptic Elements.[*]

By M. E. Vogel, from observations on July 2, and July 23, August 4, at Berlin.

	° ′ ″	
M	0 0 0·0	1851, July 8·98442, Berlin M.T.
π	323 55 11·7	Mean Equinox, 1851, Jan. 0.
☊	149 8 17·3	
i	14 10 47·4	
φ	43 33 30·0	
Log e	9·838278	
Log a	0·580140	
Log μ	2·479797	
Periodic Time	2708$^{\text{days}}$·994	(Motion direct.)

Comp$^{\text{d}}$—Obs$^{\text{d}}$.

δ. long. = −0″·2

δ. lat. = −0·1

By Mr. Norman Pogson, from the following observations:—

1851.	Mean Time at Place. h m s	R.A. ° ′ ″	Decl. ° ′ ″	
June 29	13 4 5	10 4 47·0	+ 10 37 35·0	Leipsic
July 6	13 21 10	17 46 6·6	10 49 20·0	Bonn
24	13 11 49	35 33 50·4	+ 9 53 7·5	—

T	July 10·002868	Greenwich M.T.
	° ′ ″	
π	324 7 48·05	Mean Equinox, August 1.
☊	148 13 14·39	
i	14 4 2·26	
φ	38 31 36·71	
e	0·6228820	
Log a	0·4923758	
Log q	0·0688536	
Log μ	2·8114429	
μ	647″·80271	
Period	2000$^{\text{days}}$·61	

"The middle observation is represented in longitude within 0″·80, and in latitude within 0″·04.

"The periods obtained by those astronomers who have undertaken the calcula-

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[*] Mr. George Rümker forwarded parabolic elements and an approximate ephemeris; these elements are superseded by the later determinations.

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